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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/365,363 07/30/99 ROSENBERG

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EXAMINER

WM01/0326

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PATEL, N

ART UNIT

PAPER NUMBER

2673

DATE MAILED:

03/26/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/365,363

Applicant(s)
Rosenberg et al.

Examiner
Nitin Patel

Group Art Unit
2673



☒ Responsive to communication(s) filed on Jul 30, 1999

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-25 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-25 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 1-3,5-24 are rejected under 102(e) as being anticipated by Quanrud (U.S. patent No.6,140,983).

As per claim 1,9,13, 21 Quanrud teaches a display comprising (In Abstract)
a semiconductor substrate (In Col.5 lines 18-27 and In Col.12 lines 1-15)
a liquid crystal over semiconductor pixel array formed in substrate and a memory coupled
to array , memory also formed in substrate (In Col.5 lines 9-35 and In Col.11^{line} 32-65);
a processor (In Fig.16 element 54 and In Col.25 lines 31-41).

A refresh circuit coupled to memory array and pixel array adapted to refresh memory
array and pixel array (In Col.6 lines 18-28).

As per claim 2,5,10,20, 22 Quanrud teaches a pixel array includes a plurality of pixels each
including a memory (In Col.11 lines 32-43).

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As per claim 3,23 Quanrud teaches wherein memory cells are static random access memory cells (In Col.13 lines 50-56).

As per claim 6,24 Quanrud teaches wherein pixel array forms a reflective liquid crystal spatial light modulator (In Col.12 lines 30-41).

As per claims 7,16 Quanrus teaches a memory array is formed of dynamic random access memory (In Col.2 lines-15).

As per claim 8,12 wherein pixel array is adapted to eliminate the need for a periodic pixel (In Col.6 lines 9-18).

As per claim 11, Quanrud teaches a memory includes forming a volatile memory and refreshing volatile memory and pixel array in the same refresh cycle (In Col.6 lines 18-27).

As per claims 14-15 , Quanrud teaches memory array and pixel array are formed in the same semiconductor substrate with refresh circuit wherein substrate is a liquid crystal over substrate (In Col.5 lines 9-28 and In Col.11 lines 31-67 to Col.121-15).

As per claims 17-19 , Quanrud teaches memory and pixel arrays in a liquid crystal over semiconductor substrate including storing pixel data and providing a material over pixel array (In Col.5 lines 9-34 and In Col.11 lines 32-52 and Col.12 lines 1-15).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4,25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quanrud (U.S. Patent No. 6,140,983) in view of Okumura et al., (U.S. patent No. 5,945,972).

As per claim 4,25 Quanrud does not specifically teach a pixel array is coupled to digital to analog converter.

Okumara teaches a pixel array is coupled to digital to analog converter (In Col.27 lines 5-26). It would have been obvious to one of ordinary skill in the art, at the time of the invention was made, to allow Okumara's display device having D/A converter in the system of Quanrud because it would have converted digital data into analog form using D/A converter is well known in the art.

Conclusion

The prior art made of record and not relied upon considered pertinent to application's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nitin Patel whose phone number is 703-308-7024. The examiner can normally be reached Monday - Friday 8.30 AM to 5.00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor is Bipin Shalwala at 703-305-4938.

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Please fax any document at Fax number 703-305-9724.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9618.

Any response to this action should be mailed to:

Commissioner of Patent and Trademarks
Washington, D.C. 20231

or faxed to :


(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 305-9724, for informal or draft communication, please label ("PROPOSED" or "DRAFT")

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, V.A., Sixth Floor (receptionist).

Nitin Patel
Patent examiner
Art Unit 2673
March 22, 2001


**BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**